THE

AMERICAN JOURNAL

OF THE MEDICAL SCIENCES

FOR JULY 1851.

ART. I.—*Three Cases of Occlusion of the Vagina, accompanied by Retention of the Catamenia, relieved by an Operation.* By J. MASON WARREN, M.D. (Communicated to the Boston Society for Medical Improvement.) With a wood-cut.

THE cases of occlusion of the vagina, successfully relieved by an operation, are rare, and the mode to be pursued under the different circumstances in which this occurrence presents itself has not been very fully pointed out by writers on the subject. In the first of the following cases, some embarrassment was therefore felt as to the proper course to be adopted.

The principal authorities for reference were Boyer, Boivin, Amussat, and the case of Professor Mussey. The former of these details two or three very interesting cases as showing the anatomical peculiarities which are likely to exist, but advises against the operation in nearly these words: "An opening into the bladder and rectum is not the only accident to be dreaded in this operation. Inflammation of the womb and of the neighbouring parts has to my certain knowledge caused the death of two females, on whom it had been performed." Madame Boivin, after observing that in these cases of atresia the prognosis is worse, the diagnosis more difficult, the treatment more uncertain, and the operations more doubtful and delicate than in cases of simple closure, recounts the three instances recorded by Boyer, in one of which the celebrated Dubois was called in consultation. The result of these cases was, however, fatal, as also that of another, in which an eminent surgeon unfolded, as it were, the urethro-rectal septum, punctured the tumour, and thus gave issue to the retained fluid, for the first few days with the prospect of success. The case of Amussat is very instructive, and detailed at considerable length in the number of this Journal for Feb. 1837. In many respects it corresponds with

one of our own cases hereafter given, and was operated upon with perfect success. The case of Professor Mussey is also detailed in Vol. XXI. of the same Journal; and in the number for July, 1850, another, with the appearances upon a post-mortem examination, is described by Dr. J. B. S. Jackson. "In regard to an operation," he says, "which seemed to have been so imperatively required, a consultation was held with two or three professed surgeons when the occlusion was discovered, but the opinions were against it."

Some writers on surgery, Chelius, for instance, have given general directions for the management of closure of the vagina, whether from accident or congenital malformation. But sufficient detail is wanting as to the diagnosis in retention of the menstrual secretion, and the mode of giving an external outlet when the anatomical relations of the parts have been altered by inflammation or extensive gangrene. These considerations have led me to offer the following cases, with the hope that they may be of service to any surgeon who should meet with similar instances in the course of his practice. In the first two, it will be seen that the occlusion was the result of parturition; in the last it was congenital.

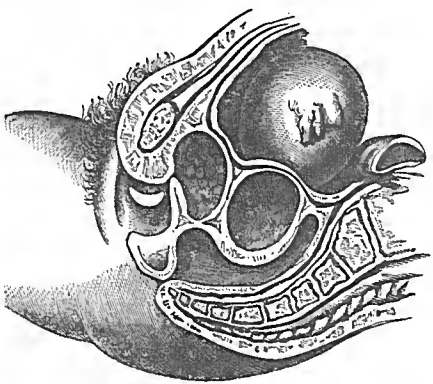
Case I.—This patient was a married woman, twenty years of age. A year before, she had been delivered, by means of instruments, of a dead child, after a labour of four days; very severe inflammation followed, attended with sloughing of a portion of the vesico-vaginal septum, so that the remains of the bladder, falling down, became adherent to the posterior wall of the vagina, and obliterated the passage. The urethra also in part sloughed, the water escaping at a valvular opening between the remains of the neck of the bladder and the os pubis.

The menstrual secretion had been retained from the period of her confinement; at first she suffered at the regular periodical returns of the catamenia from pain and distension of the abdomen, with a sense of bearing down in the rectum. Latterly, the pain has become almost constant, at times amounting to a feeling as if the abdomen would give way, and so acute as only to be relieved by the persistence in large doses of narcotic substances. From these causes she was almost bedridden, and reduced to the lowest degree of emaciation.

The constant dribbling of urine had rendered the orifice of the vagina so extremely sensitive that it was found quite impracticable to make any examination until the patient had been placed under the influence of ether. The cul-de-sac left at the commencement of the vagina was just sufficient to admit the end of the forefinger. From its upper part the urine escaped through a valvular opening, so disposed that a probe could not be made to enter the bladder. On passing the forefinger into the rectum, a hard and slightly elastic tumour could be felt about two inches from the external orifice, pressing backwards and partially obstructing the bowel. The other hand being placed on the abdomen distinguished a large globular mass rising above the brim of the

pelvis, pressnre on which communicated a distinct impulse to the finger in the rectum.

The above examination led to the conclusion that the tumour felt in the abdomen and rectum was the uterus and upper part of the vagina distended by the menstrual fluid. The question next arose how was this tumour to be attacked; the most feasible plan seemed to be to puncture it by the rectum. The impossibility of keeping a passage open in this direction was an objection to this course as affording only a temporary relief. An attempt to dissect the bladder from the vagina, supposing its posterior wall destroyed, and the relation of these organs to be as in the accompanying illustration by Dr. Dalton, would almost inevitably create an opening into its cavity.



In consultation with Dr. Morrill Wyman, the physician of the patient, the plan which was afterwards put in execution was agreed upon, and in the operation, which was performed April 11th, 1850, I was assisted by Dr. Wyman, Dr. S. D. Townsend, and Dr. C. G. Adams.

The patient being brought as completely as possible under the anæsthetic influence of sulphuric ether, was placed on the edge of the bed, with the limbs supported, as in the operation for lithotomy, and the labia held apart by silver hooks. The forefinger being now placed in the rectum to serve as a guide, a transverse incision was made across the lower part of the vagina through its parietes, so as to expose the cellular membrane lying between it and the rectum. This dissection, passing under that portion of the vagina which served as a fundus to the bladder, was continued upwards between these organs for two or three inches until the distended cul-de-sac could be distinctly felt.

A very large trocar nnd canula was now plnnged into the tnmour, and wben withdrawn a qunntity of thick tarry-looking fluid began very slowly to flow through the tube; abont n pint was allowed to escape, when tho canula was withdrawn, being too short to be left with safety, and n feunle catheter introdnced in its plnce.

In the afternoon of the day of the operation, the pntient was eomfortable, and greatly relieved from tbe previous distressing sense of distension. At intervals, however, there were severe contractile pains in the uterus like those attending the first stages of partnrition, and by them the catamenial fluid was forcibly expelled. Spirituous applications were made to the back, and an opiate administered, hy wbieh ber sufferings were temporarily relieved.

On the following day I learned that she bad passed nn nneasy night, tbe pains continuing at intervals, causing a free evaeuation of fluid. Her mother estimated tbat nt least two quarts hnd passed through the instrument, with the effeet of greatly dimiuishing the tension of the nbdomen. Towards evening sbe had nn access of pain and fever, with some obstruction to thodischarge; tbe bowels being constipated, she was ordered n eathartic of castor oil. On the thirteenth, the report was tbat the medicine hnd operated with mueh relief, and the uterus bad ngain resnmed its action. This organ could now be felt above the pubes, somewbat tender on pressure, nnd contracted into a small, well-defined tumour.

For nbont a week sbe improved steadily, tbe discharge continuing at intervals. It was with tbe utmost difficulty that any instrument could he retained in the opening, nnd when displaced, as it was once or twice by her restlessness, the aperture was found to have so contracted as to render its replacement almost impracticable; especially as her complaints were very great from the excessive sensibility of tbe external organs.

After the lapse of this period, she was attacked with a catarrhal affection, during which, from some exposure or error in diet, she was suddenly seized with violent pains in tbe nbdomen, meteorism, great sensibility on pressure, with other symptoms denoting peritoneal inflammation. These were gradually relieved by treatment, the patient barely escaping with her life. During this attack the cannla hnd necessarily been removed, and every measure for maintaining the opening nbandoned. It was therefore n subject of interesting speculation whether, nt the next catamenial period, the aperture wonld be pervious, and also if the uterus after so great distension would resume its normal functions. To the great satisfaction botb of the patient and myself, the menstrual secretion came on naturally about four weeks from the date of the operation, and gained nn exit without difficulty.

The snbseqnent improvement was gradnal, and only interrupted in the eonrso of the summer by nn attack of varioloid, wbieh disease prevailed in tbe honse.

I have recently heard from this lady throngh ber motber, who informs me that from a mere skeleton ber danghter has become qnite fleshy; she bas re-

gained her health and strength so as to be able to use exercise on horseback, and that the menstrual secretion is natural at the regular periods.

CASE II.—On February 4th, 1850, I was applied to by Mrs. B., aged thirty, in consequence of the suffering produced by the retention of the menstrual fluid from an occlusion of the vagina subsequent to parturition.

In the August previous, she had been delivered of her first child after a labour of four days, during a portion of which the head of the infant remained in the pelvis. Instruments were used but ineffectually, and the delivery was ultimately accomplished without them; very severe inflammatory symptoms attended, while a purulent discharge followed, and finally it was discovered that the vagina had become entirely obliterated. From that time the return of every catamenial period has been marked by the most distressing pains in the back and abdomen, lasting three or four days, and progressively increasing in violence; this was accompanied with some constitutional disturbance, and these repeated attacks have gradually impaired her health.

An examination showed that the vagina was entirely closed, and hardly a perceptible cicatrix could be detected to indicate the line of union. At the lower part of the vulva an orifice was discovered large enough to admit a probe, which on being introduced could be passed up a distance of three inches in the direction of the uterus, and was distinctly perceived through the recto-vaginal parietes by the finger introduced into the rectum. At this period no abdominal or rectal tumor was ascertained to exist. It was determined to etherize her, and attempt to restore the vaginal passage.

After having brought the patient fully under the influence of the anæsthetic agent, a bougie was passed into the fistulous opening. This was followed by the finger, and by proceeding carefully in this way, by distending and separating the adherent parts, a free opening was made of about three and a half or four inches. At this point a regular organized septum precluded any advance, unless by the assistance of cutting instruments. A bit of sponge was therefore introduced and directed to be kept in situ during the night.

On the day following, the sponge was removed and replaced by another piece. This course was continued for a week, when no tumour being discovered in the rectum to indicate the situation of the distended uterus, and there being no trace of the os uteri in the vagina, it was determined to suspend any further proceedings, resting contented with what had been gained, and enjoining upon her to use all necessary means for keeping the passage open until the distension caused by the menstrual secretion should be sufficient to serve as a guide to the knife.

A few months after, having rigorously followed up the above directions, she visited me a second time, suffering in the same way as before, and urgently demanding relief. An examination elicited no change in the situation of the parts. As the pain was very distressing, however, I consented to make an incision at the upper part of the vagina, with the hope of throwing some light

upon the direction in which the enlargement of the uterus was taking place. This was done, and the dissection carried as far as was thought safe, but with no good result.

On the 3d of May, I again saw her; she had for four days been in extreme pain. The vagina, so far as it had been dilated, I found to be of its natural dimensions. The finger introduced into the rectum at once discovered, about two inches from the anus, a hard tumour, such as might be presented by the enlarged prostate in the male, and with as little sensation of fluctuation. She informed me that for the previous twenty-four hours there had been a bloody discharge from the vagina, and traces of this secretion were perceived when that passage was examined, apparently coming from the mucous membrane. Not the slightest indication of any tumour could be found in this direction, even when the abdomen was strongly pressed upon.

Although the rectal tumour was free from fluctuation, I had no question from my previous experience but that it proceeded from an enlargement by distension with fluid of the upper part of the vagina or uterus, and therefore proposed an operation, which was readily acceded to.

On the 3d of July, the operation was performed, with the assistance of Dr. Channing, the patient being first etherized. The upper and back part of the vagina was cut freely through with a round-bladed bistoury, and very soon with a slight dissection the tumour which had been felt by the rectum presented itself, but much softer and more elastic than when examined through the intestinal wall. A large trocar was now plunged into it in a direction obliquely backward, in order to avoid wounding the os uteri, in case that organ projected into the vagina. A free discharge of the black tarry substance described in the last case at once took place.

About half a pint of fluid having escaped, the cannula was withdrawn, and the finger introduced into the opening, which was enlarged in either direction with the probe-pointed bistoury.

On exploring the cavity, no distinct projection answering to the os uteri could be discovered. The whole interior both of the uterus and vagina seemed to form but a single receptacle, a little contracted at one point, like the hour-glass contraction of the uterus, and this apparently answering to the situation of the os tincæ. The mucous membrane appeared much swollen and traversed by large vessels, which stood out in bold relief. A long narrow bit of sponge was passed into the vagina, half of it being allowed to remain within and half without the opening just made. The patient declared herself at once relieved from all her distressing symptoms.

From the difficulty of maintaining the new opening, it was found necessary a few days after the operation to introduce a sponge tent, which was removed daily and replaced by a larger piece. At the end of a week, the patient having exposed herself by going out of doors and washing her person with cold water, immediately after the sponge had been removed, was seized with severe pains in the abdomen and in the lower part of the back, tympanites and all the

symptoms denoting inflammation. The treatment consisted in the application of leeches, the administration of purgatives, etc. In three or four days the pain and tenderness gradually concentrated at the lower and left side of the abdomen, where a large hard tumour could be perceived through the parietes. These symptoms were suddenly relieved by the discharge of a quantity of pus from the vagina. The tumour in the abdomen now gradually subsided. The intestinal canal remained for a length of time quite irritable, diarrhœa being produced whenever she took solid food.

She left town on July 31st, quite weak, but recovered.

She was advised to have a small rectum bougie passed into the opening in the vagina daily, as the disposition to contraction was still great, and it was thought unsafe, through fear of exciting a fresh attack of inflammation, to maintain any substance constantly in the aperture.

CASE III.—*Congenital Occlusion.*—Miss S., seventeen years old, has been suffering for two years with a sense of distension and weight in the lower part of the abdomen and back, attended by a forcible pressure in the vagina, as if for the purpose of expelling some foreign substance. She has also been greatly annoyed with a frequent desire to micturate, and of late has passed water as often as every twenty minutes through the day, but with diminished frequency at night. She suffers much severe pain at the extremity of the urethra, which is aggravated by the passage of the water. She has never menstruated.

Her physician, a person of much intelligence, when applied to at once suspected the cause, and on making an examination discovered that the vagina was completely imperforate. I saw her on the next day and found the following appearances. On separating the external labia no traces of the vagina were visible. At the central part of the fossa, usually occupied by this outlet, the meatus urinarius was perceived surrounded by small vegetations, which on the slightest touch elicited the most violent resistance and cries from the patient. A probe being introduced into the urethra, its farther progress was resisted at the distance of an inch from the orifice; but finally, by passing it upwards in almost a vertical direction, it entered the bladder, which was contracted to the smallest dimensions.

The finger was now introduced into the rectum, and at once detected a hard tumour two inches from the anus, pressing backwards against the spine. It seemed quite solid, and without the slightest indications of elasticity. On passing the hand over the abdomen at its lower part, a hard projection was felt in the centre just above the pubis, having a prolongation about four inches in length, extending into the right iliac region. Pressure on either of these swellings caused a movement of the tumour in the rectum, and was attended with much suffering.

No doubt remained in my mind that these tumours were caused by a retention of the menstrual fluid in the uterus and upper part of the vagina, and also the Fallopian tubes, as in the case already referred to, recorded by Dr. J.

B. S. Jackson, in the *American Journal of the Medical Sciences*, July, 1850. An operation was therefore ut once udvised, which was performed on the following day, with the assistance of her physician, Dr. Tyler, Dr. Channing, and Dr. Storer.

The patient being fully etherized with chloric ether, an incision was made transversely across the mucous membrane of the lower part of the vagina. This disclosed muscular fibres, which being carefully divided through the aperture thus made, a delicate membrane of a dark colour protruded. It was suggested by one of the gentlemen present that this might possibly be the peritoneum, which in a case of malformation and non-existence of the vagina might take an abnormal direction. For the purpose of testing this, I attempted to separate it from the surrounding textures, knowing the loose character of the cellular tissue which attaches the peritoneum to the neighbouring organs and the pelvis. This was at once found to be impracticable, and on a renewal of the effort the resisting part yielded, and the finger passed through into what appeared at first to be the abdominal cavity, so well defined was the anatomy of the walls of the pelvis. The absence of intestines, and the appearance of a small quantity of dark-coloured fluid by the side of the finger, soon made it evident that the vagina had been opened. The size of the cavity occupying the entire pelvis, and the complete absence of os uteri or other boundary, between the uterus and vagina, was on examination sufficiently evident to all present.

By the aid of slight pressure on the abdomen, about half a pint of thick, tenacious fluid escaped. As the uterus did not at once take on contractions, no further efforts were made to evacuate the fluid, but a bit of sponge was introduced into the opening to prevent the parietes from adhering. The vegetations at the orifice of the urethra were now removed by the scissors, and the base of the tumours cauterized with nitrate of silver. To show the extreme sensibility of these tumours, it may be observed that as soon as they were interfered with the patient, although well etherized and perfectly passive through all the previous operation, immediately drew back as if in extreme pain.

At 7 P. M. she was in good spirits, and expressed herself entirely relieved by the operation. The effects of the ether had passed off, notwithstanding she had been kept for three-quarters of an hour fully under its influence. I warned her as to the great danger she incurred from any irregularity in diet or exposure to cold, as I found her disposed to leave her bed, and she was demanding food.

On the 14th September, the day following the operation, she was reported to have passed a good night. The sponge was removed from the vagina, and a free discharge of the peculiar fluid took place; after a few hours it was again introduced. No urine had been passed since the operation; during the succeeding night, however, a copious evacuation of the bladder took place.

On the 17th, she still continued to improve, and the tumour of the abdomen to diminish. The finger passed into the vagina could distinguish the os

nteri, as it were, gradually forming itself. It was about the size of a tumbler, with thick edges, and covered with dilated blood-vessels. The sponge tent when withdrawn was very offensive.

As she was urgent to go among her friends, I agreed to-day, the 20th, that she should do so; being conveyed to the rail-road in a carriage with care, and kept in a recumbent position until she arrived at the point of her destination. She was then to remain a few weeks longer in bed, or on a sofa, without attempting to use any exercise. At the period of leaving town, she was quite well. The urine was passed naturally and without pain, the sensitive tumours of the urethra having been destroyed by the operation. The discharge from the vagina had partially ceased or had been replaced by a serous exudation. Her appetite and the state of her digestive organs were natural.

On the 4th of October, the physician of this patient wrote to me as follows: "A case could not proceed more satisfactorily or more rapidly than that of Miss S. She has not had a bad or even a troublesome symptom. I could not conveniently use the dilater which you sent, but substituted a glass female syringe, which she was able to wear during the whole day, the discharge passing off through the calibre. She was able to use without pain one of seven-eighths of an inch in diameter. The discharge has ceased, and she yesterday went to her home."

In the first of the cases which have been given, the only apparently feasible way of arriving at the distended uterus was adopted, viz: that of penetrating to it by a dissection carried up between the rectum and vagina. The proceeding eventuated more satisfactorily than could have been expected. The greatest obstacle to a rapid recovery was the almost impossibility of maintaining the new opening, on account of the great disposition to contraction, and this was found to be true in all the cases. What appeared to be a large free opening, with no restriction on any side but the bones of the pelvis, in the course of a few days was contracted to a firm unyielding ring, into which it was with difficulty that a small bougie could be introduced. The sponge tent, when it could be borne, at once dilated the aperture again to a size as great as could be wished; but the extreme sensitiveness of the parts prohibited, in the case under consideration, a resort to this powerful agent. In fact, it was finally found necessary, on account of the great resistance made by the patient, to desist entirely from all applications, and leave the course of it to nature. The subsequent month, the catamenia appeared slightly, and there has as yet, so far as I know, been no obstruction to it.

In the second case, the obliteration of the vagina, which was closed throughout nearly its whole extent from the upper part to the vulva, was also caused by laborious parturition.

It may serve as an example to show the necessity of making inquiries, after a severe case of labour, as to the degree of local inflammation, and of taking measures for preventing if possible such adhesion as occurred in the present

instance, a matter of difficulty and delicacy; but as so much is at stake, these considerations must necessarily give way to a correct appreciation of the danger which would ensue from neglecting an examination, when the discharge from the vagina was so offensive as to suggest the possibility of gangrene and subsequent adhesive inflammation.

It may not be useless to call attention to the great resistance, and in two of the cases entire want of fluctuation, which existed in the distended sac formed by the uterus and vagina, as felt through the rectum, and which might lead the surgeon to doubt the accuracy of his diagnosis, did not other marks assist in forming it.

Boston, *Feb.*, 1851.

ART. II.—*Tissue, and its Retrograde Metamorphosis.*—By W. J. BURNETT, M. D., of Boston, Mass.

IF we commence at the first appearance of an individual organization, the ovum, we shall find that in its primitive condition, when examined by the microscope, it will appear to be composed of granules, and when examined chemically, that these same granules are only oil and albumen combined. These so-called granules are not properly such, for they are not solid particles, but utricles, or little albuminous sacs filled with oil.

From these primordial utricles are developed the vitelline cells, and the germinative vesicle and its contents, which, after being vitalized by impregnation, undergo a series of metamorphotic changes, ending in the production of the individual being, with its various tissues.

Two facts are here to be recognized; first, that oil and albumen, thus vitally combined, form the basis of all animal tissues; and, second, that these utricles are the parents as it were of all organized forms. Moreover, they constitute the first material expression of the union of formative power with matter; and, although identical as to their physical characteristics, according to the best microscopic evidence, yet they contain those heterogeneous forces which have their complete expression in the many and different tissues in which their existence is lost and ends.

Those utricles, for instance, which end in the formation of muscle, and cannot, as such, be distinguished from those producing glandular or any other tissue, each preserve faithfully to the end their distinctions, embodying in their minute forms the ideas, as it were, of the future form and conditions of life.

Reverting then to our simplest idea of tissue, it is this elementary form, an utricle, vitalized albumen combined with animal oil.

Now, in the elimination of tissue in its compound form, that is, capable of